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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/992,051
Filing Date: November 21, 2001
Appellant(s): FERGUSON, KEVIN M.

Michael A. Nelson
Reg. No. 59,450
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed August 11, 2009 appealing from the Office action mailed November 14, 2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal:

6,573,940 B1	YANG	6-2003
6,122,016	DE HAAN ET AL.	9-2000

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang (US Patent No. 6,573,940 B1) in view of De Haan et al. (US Patent No. 6,122,016).

In considering claim 1, Yang discloses all the claimed subject matter, note 1) the claimed an apparatus for providing a smooth interpolated video signal at any desired rate from a slower rate video signal (Fig. 1) means for up-sampling the slower rate video signal to the desired rate is met by the upconversion element 110 that provides upconverted samples b(n) at a higher sample rate, L.fin (L is integers) (Fig. 1, col. 4, lines 1-48), and 2) the claimed means for filtering the up-sampled slower rate video signal using a human visual model to produce the smooth interpolated video signal is

met by the filter 112 which filters the samples with a transfer function h(n) and removes the alias spectral components (Fig. 1, col. 4, lines 1-48).

However, Yang explicitly does not disclose the claimed filtering the up-sampled slower rate is an adaptive filter.

De Haan et al teach in a method of processing a video signal, including the step furnishing a filtered signal in response to the video signal, the filtering is adapted in dependence upon the statistical property (AC) of a modification effected by the filtering in a previous time interval of the video signal (see the abstract, Figs. 1-2 and 5, col. 5, line 30 to col. 7, line 8 and col. 8, line 56 to col. 9, line 51).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention to incorporate the adaptive filter as taught by De Haan et al into Yang's system in order to remove artifacts ("noise") from the video image which are visible to a human viewer.

In considering claim 2, the claimed further comprising means for restoring a direct current level for the smooth interpolated video signal is met by the adder 15 which corrects the DC-component of the video signal by the difference between the filtered and the original DC-component of the reference video signal (step VI of Fig. 5, col. 8, lines 26-55 of De Haan et al).

Claim 3 is rejected for the same reason as discussed in claim 1 above.

Claim 4 is rejected for the same reason as discussed in claim 2 above.

Claim 5 is rejected for the same reason as discussed in claim 1 above.

Claim 6 is rejected for the same reason as discussed in claim 2 above.

(10) Response to Argument

In re pages 10-12, appellant argues that the Examiner has failed to establish a prima facie case of obviousness because the Examiner has failed to properly ascertain the scope and content of Yang and De Haan. KSR International Co. v. Teleflex Inc., 550 U.S. 398 (2007) because, regarding independent claims 1, 3, and 5, neither Yang nor De Haan nor their combination teaches or suggests the claim limitation "adaptively filtering...using a human vision model." A "human vision model" is a term of art well known to those of ordinary skill in the art of video signal processing. It denotes a machine vision model which is designed to match the perceptual response of the human vision system. The Examiner has alleged obviousness under two different theories: First, in the Non-Final Rejection dated May 16, 2008 the Examiner alleged that Yang's filter 112 describes a "human vision model" because it "removes artifacts ("noise") from the video 'mage which are visible to a human viewer." Second, in the Final Rejection dated November 14, 2008 the Examiner changed position and alleged that De Haan describes "a human vision model". Appellant respectfully disagrees because the mere fact that a video signal processing steps of Yang produces a result that is visible does not mean that it uses a "human vision model" and De Haan's method of reducing interference is not designed to match the perceptual response of the human vision system in any way.

In response, the examiner respectfully disagrees. As defined by appellant that "a machine vision model which is designed to match the perceptual response of the

human vision system". As discussed in the Non-Final Rejection dated May 16, 2008, Yang's filter 112 removes artifacts ('noise') from the video image which are visible to a human viewer. Filter 112 of Yang matches the perceptual response of the human vision system regarding artifacts removal. Thus, Yang's filter 112 does anticipate the claimed "human vision model" because it matches the perceptual response of the human vision system regarding artifacts removal.

Additionally, as discussed in the Final Office Action dated November 14, 2008, De Haan's partial block transform and temporal filter match the perceptual response of the human vision system regarding reducing interference artifacts in television pictures. De Haan's partial block transform and temporal filter does also anticipate the claimed "human vision model" because they match the perceptual response of the human vision system regarding reduction in interference artifacts.

Accordingly, either Yang's filter 112 or De Haan's partial block transform and temporal filter anticipate the claimed "human vision model" because they match the perceptual response of the human vision system regarding artifacts removal or reduction in interference artifacts, as defined in the Specification of the invention "the output from the HVM adaptive filter 14 is a temporally smooth, not necessarily blurred" (page 3, lines 1-5 of the Specification).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

TT

/Trang U. Tran/

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